Autarky and Material Contingencies in Italian Architectural Debate (1936-1954)

Pep Avilés

Finding the archaeological precedents of what has been labelled 'Italian neorealist architecture' is perhaps too easy an endeavour, as the Italian historian Manfredo Tafuri recalls.[1] According to Tafuri, the precedents for this kind of architecture that blossomed right after World War II, were the rural exhibitions promoted by the fascist regime. These created a common stratum for disenchanted intellectuals, working classes, and the peasantry alike, well before the beginning of the international hostilities. To trace the natural, rural, or popular influences in a country that had only recently accomplished full industrialisation and was still dependent on a strong agricultural sector, seems not too much of a challenge. Nonetheless, some conditions may also be highlighted: a whole array of political, ideological, and economic factors contributed to that redemptive communion in an amalgam of agents that inevitably affected the architectural debates. In 1936, the official adoption by the fascist regime of policies promoting autarky[2] - a national economic doctrine that relies on domestic material disposal and manufacturing in order to guarantee economic independence - did not just provide significant direction for the architectural use of national materials. It also brought forward austerity as a fundamental guiding concept for a sector that was not considered as strategic in terms of warfare. From the 1930s until the end of World War II, the government promoted, by means of indoctrination campaigns, the intensive use and research of domestically produced materials over imported ones. The architectural consequences of the search for economic autonomy in an increasingly unsteady international environment would play a fundamental role in the development of Italian postwar architecture. Architects with affinities to the fascist regime took advantage of the economic restrictions to defend the use of Italian materials while promoting monumentality to represent the official architecture of the regime. But also the architects less committed to Mussolini's regime defended austerity, as a way to support the ideological basis and possibilities of the modern movement. The tendentious reading of interwar political interests triggered numerous social, industrial and architectural reactions that provided a productive substratum for postwar architecture. After World War II, austerity became the main semantic assistance for the Roman architectural elite to engage with the reconstruction tasks and accommodate the huge immigration movement from the agricultural fields towards urban centres.

The present article will explore some of the material, industrial, and ideological developments that were already present before World War II and cannot be overlooked in the analysis of postwar architecture. The intent is not to propose a cultural revision of that period, but to acknowledge the reception and establishment of material policies in architectural discipline and debate from 1936 until the reconstruction years. Autarchic policies became a recurrent agent in time, interacting with different cultural (the presence of the avant-garde and the re-evaluation of the modern movement), social (peasantry and immigrations towards urban areas),

ideological (the fascist regime and its opposition), and productive forces (the relationship between industry and craftsmanship) before World War II. Without overestimating its relevance, austerity can be identified as a semantic offspring of material policies, articulating a multiplicity of agents in architectural practice. As such, it becomes a valuable tool for reading and interpreting the difficult and intricate interactions between economic contingencies and architectural production. Pre- and postwar Italy serves as a particularly appropriate case for comprehending such entanglements. The interplay between social categories and productive forces, on the one hand, and history and ideology, on the other, within a precise cultural milieu, encourages a contingent historical reading of architectural developments, rather than a teleological one.

1 - Precedents

Any evaluation of the presence and development of the modern movement in different countries before and after World War II must take into account the level of industrialisation of the economy and its material possibilities in a given cultural and social environment. Avant-garde European architecture had been connected to the metaphoric representation of the industrial machine. Notwithstanding its Futurist movement, Italy witnessed a relatively slow industrialisation after its 1870 reunification. The cultural ambitions of the bourgeoisie were belatedly incorporated into the national cultural agenda, and therefore the Liberty Style - also called *Floreale* - would be less agile than its European counterparts.

Even though recent studies of nineteenth-century Italian industry tend to demonstrate that its backwardness was not as extreme as was suggested by the data published by the *Istituto nazionale di statistica* during the 1950s, Italian industrial development was without doubt incomparable to the achievements of its European neighbours. In order to accommodate for the nation's socio-economic reality, Italian industrialists were reluctant to import technologies that required investments and instead opted for technologies that allowed the exploitation of the available mass of unskilled labourers. The major businesses emerging after reunification - companies that would later play a fundamental role in Italian mass production, such as Pirelli (1872), Fiat (1899), or Olivetti (1908) - were founded on familiar oligarchies, but were also sponsored by (both leftist and conservative) public authorities, and financed by a banking system of German origins, such as *Credito Italiano* and *Banca Commerciale* (1894). Italy would thus enter the twentieth century as a hybrid capitalist state, based on both public and private capital resources.[3]

Italian industrialisation switched gears thanks to hydroelectric power and the surplus of agricultural labour migrating to wealthier areas in the north, such as Milan or Turin. This exodus resulted, after World War II, in the emergence of a huge gamut of small businesses or *laboratori*: companies with a combination of technical and craftsmanship knowledge able to nourish each other materially. The economic historian Vera Zamagni has argued that industrialisation in Italy was faster and more successful precisely in those places where the relationship between the peasantry and the manufacturers was closer.[4] Social aspects, such as familial concentration, and neighbourhood and community values, helped blur the line between manufacturers and workshops, a strategy that had no counterpart in Europe. In fact, the capabilities, flexibility, and independence of Italian manufacturers from the government and public sponsorship, as well as the atomisation of its economy in multiple small-scale companies, would become the cornerstone of Italian production, allowing it to face the challenges of the first half of the twentieth century. Italy was thus a country of small- and medium-sized businesses, partly as a result of its craftsman heritage but also due to the limited size of its market and economy.

The *biennio rosso* (1919-1920) was characterised by worker upheavals and popular calls for a redistribution of wealth. This led to high inflation and rampant unemployment, which in turn allowed for the political rise of the *Fasci di combattimento*, founded by Mussolini in March 1919. Mussolini's arrival to power in 1922 did not result in substantial economic changes until the official declaration of the dictatorship three years later. The government addressed the pressing problems of monetary policy and inflation through the application of initially liberal strategies that soon became interventionist. With public interventions and the nationalisation of key sectors, such as the banking system, the state began to take over the economy and industry. It also launched new production policies as a way to guarantee the economic independence of the nation. The aftermath of those policies in the development of Italian industry has been disputed. Some economists and historians have read the period as an obstacle to Italian technological growth. Others instead have argued that the combination of the sponsorship of small- and medium-sized manufacturers, the encouragement of material research, and the defence of domestic production were foundational to the 'Italian economic miracle' of the 1960s.

The final aims of the fascist regime are less disputed than its policies. It is verifiable that the priority was to transform the nation into a war machine, despite the scarcity of products and even though downsized opportunities abroad hindered industrial production. The domestic output was only able to provide one-fifth of the material needs of the country. Few scholars understand the autarchic statements as an advantage for later technological development.[5] The result was that Italian imports between 1936 and 1938 were half the level of 1913.[6] The situation was such that Italy was forced to sell weaponry to those countries already at war with Germany, disavowing the needs of its ally and delaying its participation in the conflict due to its material weakness. Thus, autarchic measures were considered a double failure, neither able to guarantee the military power that Mussolini needed to engage in the dispute, nor to launch a powerful industrial productive force. Nonetheless, if the fascist regime did not bridge its technological gap with surrounding nations, it did not hamper industrial progress either. The imperial aspirations of Mussolini fuelled new political agreements that influenced postwar developments, notably the initiatives around the chemical industries, which were paramount in the fabrication of explosives, artificial textiles (e.g. rubber), and the development and exploitation of aluminium.

2 - Autarky and industrial policy

In 1933, the *Istituto per la ricostruzione industriale* (IRI) was founded to undertake strategic control of industry. After the crisis in the beginning of the decade, the IRI took control of steel production, favouring, for instance, the use of scraps as a way to counteract the scarcity of raw material. At that time, Italy became the main importing country of scraps in the world, amounting to one-third of the total output between 1920 and 1936. Despite those efforts, the price of steel products in Italy was up to three times the value in other countries because of inefficient coordination of the overall metal production. During the second half of the 1930s, engineering would demand the larger amount of iron, whereas the use of steel in construction diminished.[7]

The military invasion of Ethiopia on 3 October 1935 by Mussolini's fascist regime had considerable consequences for its imperialistic and economic aims. Four days after the conquest, the Society of Nations imposed economic sanctions,[8] denouncing the Italian act as a declaration of war against all members of the Society, according to previously signed agreements. The intensification of Italian economic autonomy was a direct consequence of those events.

Even though the international blockade did not

last long - sanctions ended on 15 July 1936 - the government launched a series of measures to assuage energy and supply shortages while mobilising national production according to military agendas and interests. Among the many obstacles the sanctions brought, the lack of coal and iron was the most worrisome. Italy was short on natural resources to satisfy demand for those materials, which were fundamental to meet the needs of the army. Moreover, Mussolini's military aspirations relied chiefly on steel production. Thus, the Italian government sponsored programs in order to obtain not only those raw materials, but also the required currencies for international commercial trade. The government also promoted small- and medium-sized companies around industrial districts to research and create new materials.

On 23 March 1936 (year XIV according to the new fascist calendar that commemorated the rise of the movement), Mussolini addressed Italians from the *Assemblea delle corporazioni*, warning of the inevitability of war and the need to intensify state presence in the market - not to 'nationalise', or 'bureaucratise', but to 'manage' and 'control' its industrial and economic pace.[9] As such, the policies articulated Italy's three greatest productive sectors: agriculture, small- and medium-sized production, and big-factory manufacturing. Mussolini was very aware of the role small- and medium-sized companies based on craftsmanship played for a healthy Italian economy. As a result, he dedicated great attention to them in his speech, while calling for 'initiative' and 'individual responsibility' in order to solve common problems.[10] The aim was to subordinate and amalgamate private efforts, to defend those common targets previously monopolised by the fascist state, without jeopardising military production.

Propaganda plays a fundamental and obvious role in the existential need for control in totalitarian states: mass indoctrination and tendentiously fabricated reports for outside consumption become a key source for political continuity. It was in that spirit that, in 1938, the *Istituto per gli studi di politica internazionale* in Milan published a document written in English, titled *Autarchy*, meant to justify the actions taken within the turbulent and uncertain atmosphere between nations in the 1930s. Autarky was portrayed as the most compelling but also inevitable solution to safeguard Italian interests. But autarchic policies had more ambitious aims beyond economic self-maintenance. The policy was presented as a manoeuvre of national reaffirmation to guarantee its political autonomy:

The essential character of autarchic policies cannot be explained by merely showing the connection between the tendency to secure greater self-sufficiency shown by all countries and the postwar trend toward a planned economy. The real explanation is to be found in the fact that all efforts at economic self-sufficiency aim not only at satisfying economic needs but at securing national political independence. It is only when the connection between economic and political needs is understood that autarchic policies become comprehensible.[11]

Liberating the government from foreign dependence would jettison unwanted political chains, allowing Mussolini to proceed according to his own agenda. The Italian dictatorship was therefore shielded behind the tendency among industrialised nations to protect their market after the Great Depression, regardless of the agreements of liberalism signed in previous years. The movements made by Germany and followed by Italy in that direction were mandatory, according to the Italian pamphlet, both to guarantee and safeguard their political integrity and to justify the otherwise unacceptable invasions.

This new international situation forced the government to evaluate its domestic material disposal and to reconsider its industrial organisation. In terms of energy, the nation struggled to supply sufficient coal

and oil for its domestic market. The government naively believed that increasing exploitation and availability of coal from mines in Sardinia and Istria would be sufficient to safeguard its industrial and military development. Unfortunately, Italy could not rely solely on its own energy sources. It also had to ensure the supply of iron and steel for commodities, either by importing, by recycling scraps, or through mining exploitation. To follow a policy of imports would seriously threaten the autarchic assignment, and the reuse of scraps had its obvious limits. The problem with the Italian mining industry was that its most promising mines were located at an altitude of 2.800 meters, hampering not only extraction but also manufacture and transportation. Therefore, in order to solve the problem, the use of steel and iron had to be restricted in those industries that were not relevant to military enterprise. However, the greatest battle to be fought was for the re-education of the population and the adaptation of large economic sectors to face the complex and delicate economic situation:

[...] it is becoming apparent that autarchy not only requires the mobilisation of all productive activities and the utilisation of the low grade raw materials available in the country, it is above all a question of ingenuity in discovering new uses for available economic resources, and this calls for a radical modification of consumer's tastes, which will be secured by the active propaganda carried on in favour of economic self-sufficiency. Thus our people are learning to eat more fish and less meat, to use tinned foods which can be prepared in abundance from home grown fruits and vegetables, to reduce to a minimum the use of structural steel and iron in the building trades, to increase the use of synthetic products.[12]

This educational policy was nevertheless rendered partially insufficient. Even though the results of autarchic legislation were a resounding failure in military terms, the overall production shrinkage led to some success in areas like naval construction as well as industrial and chemical production. The construction industry had to reduce its technological aspirations as a result of the material restrictions, and instead developed different solutions in tune with available resources.

National and autochthonous values came to the forefront, discouraging the use of iron and steel in buildings. The use of new and local materials such as stone and marble was instead encouraged. National wood was used for fibre panels (*Faesita*, *Masonita*), chipboards (*Eraclit*, *Tekton*), or plywood (*Buxus*). Chemical developments contributed to new materials such as composite panels (*Bakelita*), while the use of aluminium became comprehensively promoted in products such as *Duralluminio* or *Anticorodal*. Undoubtedly, the material that responded better to national directions was glass, with its star product *Securit* appearing in every issue of architectural magazines. Nevertheless, no remarkable glass architecture was developed. Furthermore, to succeed in such an economic environment meant quite often to highlight the national or autarchic character of the material in industrial advertisements. Foreign companies such as Saint-Gobain had to emphasise the *italianietà* of their output in an attempt to show acquiescence with governmental recommendations.

3 - Autarky and architecture

The architectural discipline and all the industrial activity around it suffered from the convoluted economic situation, the governmental policies, and the scarcity and control of commodities. However, the debate around the use of materials in Italian architecture had started a few years earlier: magazines such as *Casabella*, *Quadrante*, and, to a lesser extent, *Rassegna* and *Domus*, were concerned about the relationship between the architectural image, the formal language employed, and its syntactic articulation, already during the first half of the 1930s. In doing so, they foresaw the

fundamental critique of rationalism and the artistic avant-garde that was about to take place: its inability to communicate meaning to a larger segment of the population. This critique paralleled the argument that Ortega y Gasset launched in 1925 already, in *The Dehumanization of Art*, where he bitterly complained about what he called the presumptuous and elitist statements of abstract art, insufficiently comprehensible to, and compatible with the cultural success of future democratic societies.[13]

One of the main consequences of autarchic policies was precisely the rise of a semiotic debate centred on the relationship between material and its meaning. After stigmatising modern materials such as iron or steel, labelled as 'antinational', the dispute became ideologically loaded between those who saw in modern techniques a threat to Italian traditional architecture, and those embracing the formal and intellectual basis of the modern movement. The magazine *Casabella*, edited by architect Giuseppe Pagano (and Edoardo Persico until his death in 1936), initially held an ambiguous position. Pagano initially defended the modern use of materials rather than the use of modern materials. But once the controversy arose, *Casabella's* editor became one of the most vociferous defenders of steel as an autarchic material, above the official ones like stone or clay. It was not just a question of the material itself, but rather an attack on those positions that could jeopardise the road taken by avant-garde architects to this point. In order to settle the editorial board's positions, the magazine launched a series of essays in its *Sezione Tecnica* in the late 1930s, aimed to counteract the official recommendations against the use of metals, and presenting technical knowledge and statistical information that evaluated metals in terms of their desired autonomy from foreign markets.[14] Nonetheless, defending steel from the threat of construction ostracism also meant stepping into some paradoxical terrain. It was not about consuming less steel but about consuming less money to produce those commodities. Ignazio Bartoli, an engineer and regular contributor to the technical section of *Casabella*, argued that the use of steel in buildings was not truly in opposition to official policies and recommendations, because a closer and more accurate analysis of the meaning of autarky would illuminate hidden aspects and reverse the conclusions.[15] Bartoli affirmed that the use of steel in carpentry would be less costly than the use of wood because steel was a fully industrial, mechanised material, with less labour invested in its production. Certainly, one of the most pressing needs in interwar Italy in relation to the economic blockade was to obtain foreign currency. Nevertheless, Bartoli's argument went a step further by pointing out that the equation of autarky and austerity was not inevitably the consequence of autonomous economic wishes. In addition, Bartoli wrote that steel manufactures could enjoy a 'longer life' because it was feasible to recycle them as scraps, while wood could only be used once as an energy source. According to that argument, Bartoli tacitly assumed the obsolescence and expandability of the products as a positive quality, whether or not they would later be recycled. This was opposed to traditional restoration, reconstruction or simply repairing, an issue that Reyner Banham would later insist upon with regards to postwar consumerism.[16] During those years, the coupling of autarky and austerity was the most frequent argument to defend the use of steel.

The resounding responses to *Casabella's* campaign were just around the corner. In 1938, the magazine *Rassegna di Architettura* founded a series of instalments under the heading *Tecnica Edile*, a much more conservative section intended to parallel official positions.[17] In the opening article, entitled *Autarchia nelle Costruzioni Edili*, the engineer and future minister of labour Giuseppe Gorla asserted that the use of metallic materials in construction had to be subordinated to military urgency. The prescription was to overcome national constraints by abolishing the use of metals 'in the rural and urban

modest constructions'.[18] Imported wood was also to be avoided, as well as coal, while the use of local materials was strongly encouraged. Stone stood as the chosen material for 'the works that fascism will leave for posterity as a memory of its heroic time'.[19] The aim of the article was to impose a mentality that was predisposed towards what Gorla called an 'autarchic mystique', one that worshipped domestic and local products above commodities from foreign nations.[20] This mystique became invested with orthodox fascist rhetoric. The exhibition *Torino e l'autarchia*, organised to commemorate the visit of *Il Duce* to the *Piemonte* in 1939, displayed the glossy achievements in economic autonomy of the fascist government in areas such as fishery, siderurgy, and so on. The exhibition featured an entire pavilion devoted to the question of the autarchic mystique, a euphemism disguising the indoctrination of governmental spirit. This mystique paralleled the 'realist mystique' that Salvatore Cardella proposed in the same magazine, shortly after Gorla's indictment.[21]

Architectural polemics between the defenders of the state's economic and industrial policies on the one hand, and the non-conformists on the other, reached one of its highest peaks in Giuseppe Pagano's written responses[22] to three articles previously published by Marcello Piacentini in *Giornale d'Italia* under the unequivocal title *Politica dell'Architettura*.[23] Piacentini had supported fascist ideological policies by advocating the use of marble in monumental architecture of pure volumes, very much in tune with the government's taste and its ideal of self-representation. Even though Piacentini and Pagano would agree on rationalistic values of construction, simplicity, and structural clarity, the latter could not share Piacentini's defence of *l'internazionale classicoide ed academia*, which so much pleased the official apparatus.[24] The ideological criticism ran parallel to the aesthetic one: according to Piacentini, among the values of the modern movement was its 'adherence to reality' and natural laws.[25] He used the term tendentiously to promote and strengthen nationalist and populist attitudes.

Piacentini's positions were supported and reinforced by Salvatore Cardella, who in 1939 published an apologetic article entitled *Punti fermi della nuova architettura* in the magazine *Rassegna di Architettura*.[26] The article appropriated Sant'Elia's architectural statements to establish nationalistic roots for a 'new architecture'. Cardella launched a vindicatory appraisal of stone, specifically marble, as a material belonging to a traditional Italian language, for a new monumental architecture meant to represent the fascist regime. Unfortunately, this new architecture very much resembled the old one. According to Pagano, the only space that Piacentini and his followers defended was the spurious sphere of tradition, a conservative place for fixed values and habits that hampered future development of the national economy while questioning the industrial capabilities of the nation. The problem of a poorly understood autarky was its technical and economic heritage, as the lack of research in that direction would jeopardise new technological developments. And so it was.[27] In 1940, the year that *Casabella* changed its name to *Costruzioni Casabella*, Giuseppe Pagano criticised the confusing position of the state regarding artistic and cultural expressions. On the one hand, the state stubbornly defended a national monumentality based on artificial myths of 'romanity' as misleading academic paraphrases. On the other hand, modern architects were willing to find common grounds between 'art and life, technique and feeling, humanity and civilisation, between social ideals and artistic primary ones'.[28] Meanwhile, the battle for economic autonomy of the fascist government was affecting architecture in two different ways: first, by means of the political role assigned to architecture and the acknowledgement of the paramount relevance it had in fashioning the moral habits of populations; and secondly, by altering construction procedures and solutions that constitute the base of architectural expression.[29] Materials and their technical use have their formal

solution within the physical possibilities in a given cultural framework. Structural technologies as well as final construction details reveal industrial and cultural identities. This semantic capability of detail in architectural expression became the discursive axis for Italian postwar architecture, either in neorealist Roman architecture, or in the tendency to recover past artistic traditions in the northern areas of the country, a movement Paolo Portoghesi labelled Neoliberty Style.[30] Unfortunately, fascist retaliations kept Giuseppe Pagano away from those developments.[31]

4 - Reconstruction

Italy signed peace treaties with the winning countries in 1943, but it was not until 28 April 1945, that the shadow of Benito Mussolini was politically banished.[32] After the war, it was difficult to distinguish between debris and urban settlements in the European landscape: a perfect *tabula rasa* where society had to be reconsidered. Furthermore, Italy faced a double misfortune: on the one hand, it was stultified by warfare; on the other, it had to negotiate the poisoned heritage of 21 years of fascist dictatorship. Italy was a divided country where supporters and detractors of the regime did not reconcile their harsh hostilities.

Finally, in 1946, the Italian Republic was erected as a modern state, and new legal, financial, and social agreements were belatedly established. The new constitution adopted in 1948 outlined the basic rules for reconstruction.[33] The sponsorship of the European Recovery Plan, better known as the Marshall Plan, as well as multiple national reconstruction programs, aimed initially to recover the agricultural sector as a way to counterbalance the enormous economic differences between the rural impoverished areas and the more prosperous cities, particularly those in the industrial north. Nevertheless, these efforts failed to curb the overwhelming migration towards urban centres. Reconstruction started with a pressing need for collective representation of pain and sorrow after the massacre.[34] It was in those very first moments that discussions of material, its meaning, and its use emerged in the different proposals of Roman and Milanese architects. In 1945 Milan, Ernesto Nathan Rogers, Enrico Peresutti, and Ludovico Belgiojoso designed, as a memorial for those who had died in Nazi concentration camps, a small Cartesian steel grid based on the golden section, holding a vessel full of earth from *Mauthausen*.[35] The aesthetic challenge was to find agreement through abstract representation. The crumbling state of reason left its pristine structure as a reminder, harbouring the possibility of its reconstruction highlighted by a stereotomic absence unable to forget history. The materiality of the monument was not a coincidence: it referred critically to an unaccomplished modernity that had to place its past in the very ontological centre.[36]

But whereas the object of the Milanese design emphasised the void, in Rome, the memorial of the *Fosse Ardeatine* struggled between lightness and monumentality. After the liberation of Rome on 4 June 1944, the Allies were soon able to find the quarries where German troops assassinated 335 Italians as a revenge after the events of *Via Rassegna*.[37] The Roman City Council soon opened a competition to design a memorial in the area. Mario Fiorentino, Nello Aprile, Cino Calcaprina, and Aldo Cardelli (together with the sculptor Francesco Foccia) and the representatives of the Union of Young Architects, led by Giuseppe Perugini and the sculptor Mirko Basaldella, won the competition in 1946. The result of the competition, the construction of the monument at the *Fosse Ardeatine*, combined raw monumentality with apparent material austerity for its architectural representation. A rough concrete monolith supported at only six points covered the 336 gravestones beneath, leaving a thin slot of light between its massive volume and the ground. The ambiguity of the formal representation, between modernity and monumentality, suggests that the design could only become a piece of monumental

national unity if both losers and winners were able to feel a shared empathy in abstract terms without insisting on their differences. The void between the slab and the earth can be read precisely as the place for this encounter, since the refusal to touch the ground materially eliminates part of its monumental weight. It is significant that the complexity of representation was materially loaded, and quite differently so in Rome than in Milan, particularly if we consider both memorials in the light of past and future events.

The *Associazione per l'architettura organica* (A.P.A.O.) was established in June 1945 in the *Palazzo del Drago* in Rome, and coordinated by an executive committee that had among its members Gino Calcaprina, Mario Fiorentino, and Bruno Zevi. In September 1945, the Roman magazine *Metron*, directed by Luigi Piccinato and Mario Ridolfi, published three declaration principles of the recently created Association. The second one defined what they understood as organic architecture:

Organic Architecture means an architecture for the man, modelled according to the human scale, according to the spiritual, psychological and material needs of the man associated with. Organic architecture is therefore, the antithesis of monumental architecture that promotes state myths.[38]

In order to fulfil the needs of an abstract and ideal popular man, it was necessary to disdain, during the reconstruction that was going to take place, all types of myths together with the 'nationalist and autarchic resentments' that fascism had lavishly formulated.[39] The ideological problem was that, quite often, the autarchic heritage and its austerity matched too well with the perceived 'spiritual, psychological and material' needs of the average Italian postwar immigrant.

Architects were about to lead the urban reconstruction process. The *Consiglio nazionale delle ricerche* promoted the study of housing prefabrication, discussed at a round-table with the *Scuola di architettura organica*, a pedagogic institution depending on the A.P.A.O. and founded by Bruno Zevi after his educational exile in the United States. The magazine *Metron* emphasised those prefabricated processes by showing the achievements in other geographies. Articles and images of technical systems, such as the experimental work by Conrad Wachsmann and Walter Gropius, were published with the hope to spread a technological seed for reconstruction on the Italian market. The efforts were partially compensated during the eighth Milan Triennale in 1947. The experimental complex QT8 by Piero Bottoni, one of the editors of *Metron*, brought up a question he had already formulated in 1934. The aim was to design an urban area of 66 hectares to accommodate services, facilities, and 1300 dwellings of which 300 would use prefabrication technologies. Housing was addressed in its multiple scales, searching for standardisation and prefabrication not only of its components but also of the whole process, namely in order to mass-produce the dwellings. But social needs and technical possibilities were far from rendering suitable the industrial utopia for the Italian market. The low employment rates after World War II discouraged activities that reduced labour: the building industry was one of the main sectors held responsible for accommodating an unskilled labour force. Nor did the backward technological conditions help in that direction. The lack of economic enterprise and industrial ambition led to the rejection of designed prototypes as a compelling solution for reconstruction. The utopian technological hopes faced a material, social, and economic defeat.

Nonetheless, a more pragmatic solution was soon to solve this impasse. If standardisation was to be jettisoned by industrially short-sighted entrepreneurs, traditional techniques, already standardised not in production but in manufacture, were about to take the lead. After ten months of research and

compilation, Mario Ridolfi published in 1946 the *Manuale dell'architetto*, a handbook financed by the *Consiglio nazionale delle ricerche* and The United States Information Service (U.S.I.S.) that managed to distribute 25,000 free issues among Italian architects and design professionals. The work was coordinated by Pierluigi Nervi, Bruno Zevi, Biagio Bongiovannini and Mario Ridolfi and edited by Gino Calcaprina, Aldo Cardelli and Mario Ridolfi himself. It was a response to 'the vastness of the program' that 'all the Italian buildings in the work of reconstruction' were about to face.[40] Unlike the comprehensive and celebrated *Bauentwurfslehre* published by Ernst Neufert in 1937, the Italian sequel revealed very little technological interest.[41] Preceded by past attempts to systematise construction in Italy,[42] the public presentation of the handbook in *Metron* magazine[43] distanced itself from Neufert's work because of the complexity of translation of the German terminology, according to Ridolfi. But the handbook did not lack direct influences. The patronage biased the editors towards American methods, which explains, for instance, the presence of 'balloon frame' systems, appreciated by Sigfried Giedion but completely alien to Italian traditions.

The *Handbook* had 266 plates in eight main categories, which were meant to be completed with new solutions and details in later editions.[44] Most remarkable is the absence, in dwellings, of space to accommodate appliances such as washing machines, used in developed countries, as Neufert had already acknowledged. This is not surprising though, if we take into account that according to an official 1939 census, as much as 21.6% of all the dwellings surveyed had no kitchen and over 40% had no drinking water and electric lighting.[45] But despite the technological backwardness, or perhaps precisely because of it, the *Handbook* became a resounding success and welcome guide for postwar Italian architects. Soon, new national agreements for reconstruction were reached. In 1949, the *Istituto Nazionale per l'Assicurazione, INA-Casa*,[46] a national institution to manage Italian public housing policies, was created from the ashes of previous social housing organisations, the *Istituto Case Populare* (ICP, 1903) and the *Istituto Autonomo per le Case Populari* (IACP, 1909, renamed during the fascist years as *Istituto Fascista Autonomo per le Case Populari*). The great migration of workers towards industrial areas in the north and the wealth of those urban areas rendered urgent the need for coordination between housing policies and urban development, in order to balance the uneven population distribution. Some of the most celebrated and memorable buildings from the period came out of the work by *INA-Casa*.

That same year, in 1949, Mario Ridolfi and Ludovico Quaroni started the design for the urban development *Via Tiburtina* in Rome, a housing project with a formal solution that resembled traditional rural constructions. The proposal organically articulated the different volumes by avoiding linearity and repetition, rejecting the mass standardisation associated with modernist cities, and instead nourished a picturesque, rural quality. This operational mode, which had its *raison d'être* in popular and rural values, and reinforced the concept of community through the austerity of its aesthetic proposals, was the common ideological ground for architects and the population during the first decade after the war. The development of the village *La Matera* (southern Rome) in 1951 by Ludovico Quaroni, Federico Gorio, Michele Valori, Piero Maria Lugli and Luigi Agati, amongst others, became the most conspicuous example of this kind of attitude. Urbanism tried to deploy a kind, soft, and traditional solution to sociological and environmental issues. But perhaps better known was the design by Mario Ridolfi and Wolfgang Frankl for *Viale Etiopia*, also in Rome (1950-54). More committed to the modernist city than the previous ones, the qualities of the small details in the groundsels, the articulation of volumes, the reduction in the thickness of columns to accommodate prefabricated elements, and the harshness

of the proposals are usually understood as formal architectural responses to the social postwar milieu. The unworried use of decorative elements took advantage of the artisan aesthetic capacities within the tradition of those small *laboratori*, also interpreted as an exhilarating and compelling critique of the rigorous abstraction of the modern movement.

The Swiss scholar and architect Bruno Reichlin has stated recently that the parallel use of 'rhetoric figures' (such as social mimesis, spontaneity, or chance), are the conspicuous links to legitimise the borrowed label of neorealism in architecture.[47] Literary and cinematographic criticism identified redundant narrative and plot techniques in the cultural representations as reactions to the devastation produced by warfare. Preoccupation with everyday social life, the use of language coming from the lower social strata, the display of the roughness of urban conditions, and the more or less explicit critique of moral habits and social attitudes were the common points around which the narrative was woven. But Italian architecture addressed some of those common concerns already before 1940, when it was still conditioned by autarchic policies. The cultural and economic milieu was reformulated after World War II by using the same traditional tools, giving birth to so-called neorealist architecture. It is not surprising then that some of the leading voices of this type of architecture were around Rome, close to the government's power and influenced not only by its industrial policies and state interventions but also by architects' reactions to them.

Neorealism, as applied to architecture, is perhaps a hasty and overlooked term: as there is no clear precedent to identify a precise formal and ideological style,[48] we tend to think that recuperation of the past, the over-stimulated attention to popular taste as it was represented in the lower classes, and the use of traditional materials are a self-evident result of warfare. Perhaps the powerful images that films such as *Germania anno Zero* (Rossellini, 1948) or more naive ones such as *Miracolo a Milano* (Vittorio de Sica, 1951) contributed to that aspect. But World War II did not stand for a fundamental gap in either architectural preoccupations or in formal architectural solutions. Certainly, the term realism was frequently used by those architects following fascist cultural intentions, as a populist, non-intellectual tool.[49] But predictably enough, postwar Italian architects found a way to deploy their professional skills and knowledge as representative of the national situation beyond material scarcity, ideological struggles, and utopian aspirations. An etiological analysis of buildings of that period would probably reveal their direct response to the spiritually decayed condition of a recently immigrated population, punished by the restrictions of the war, looking nostalgically at its rural past. But it also seems certain that their formal solutions were materially and ideologically affected by the historical, cultural, and economic context.

However, despite the excellent works of Italian modern architects and the intensity of their critical arguments, the technological ammunition that the country provided for the development of the modern movement before the 1950s was low-powered. This was due not only to its backward industrial conditions, but also to the role played by the fascist state in the economic management of the productive sectors and in its foreign policy. Those actions directly stained the architectural debate, politicising the use of materials and technology during the 1930s and fertilising the ground for new design attitudes after World War II. In Marxist terms, politics (superstructure) altered the mode of production (base) in order to fulfil military agendas. This modification generated a cultural conflict and response before World War II in both political sides of the architecture scene, and extended its influence to the reconstruction years. Autarky was the historical triggering agent that allowed austerity to play a dual role, playing in favour of official policies before World War II by seizing the possibilities of industrial and technological development in construction,

but also as a dynamic economic engine and a symbolic commonplace during the reconstruction years. The double capacity of austerity needs thus to be analysed within both historical contexts. Although paramount, material considerations are never enough for a full comprehension and critique of historical moments. Nonetheless materiality becomes an instrumental starting point to foster interdisciplinary readings within larger systems of social, cultural, and economic forces.

Notes

1. Manfredo Tafuri, *Storia dell'architettura italiana*, 1944-1985 (Torino: Giulio Einaudi Editore, 1986), p.14.
2. The adjective 'autarchic' responds to both the nouns 'autarky' (economic self-sufficiency) and 'autarchy' (despotism). Nonetheless, Italian publications at that time mistranslated the Italian form 'autarchia' for 'autarchy' even though they were referring to national economic and productive autonomy. The present text uses the 'autarky' and 'autarchic' forms, except in explicit references and quotes from Italian literature.
3. See Nicola Crepax, *Storia dell'industria in Italia, Uomini, imprese e prodotti* (Bologna: Società editrici il Mulino, 2002), pp. 304-14.
4. Vera Zamagni, *The Economic History of Italy (1860-1990): From the Periphery to the Centre* (Oxford, New York: Oxford University Press), 1993.
5. See Gulaberto Gualerni, *Lo stato industriale in Italia* (Milan: Etas Libri, 1982) and Rolf Petri, 'Innovazioni tecnologiche fra uso bellico e mercato civile', in *Come perdere la guerra e vincere la pace*, ed. by Vera Zamagni (1997), pp. 245-307.
6. Zamagni, *The Economic History of Italy*, p. 271.
7. Ibid., p. 287. Footnote.
8. The sanctions prohibited the exportation of military weapons to Italy and the imports from the country at the same time that all commercial agreements were frozen. Neither Germany nor the United States were among the signing countries, and kept the commercial trades flowing. Source: Istituto per gli studi di politica internazionale, *Autarchy* (Milan, 1938), p. 18.
9. The speech can be read at the following site: http://www.dittatori.it/discorso23marzo1936.htm. [Accessed in March 2009]
10. Ibid.
11. Istituto per gli studi di politica internazionale, *Autarchy*, p. 17.
12. Ibid., p. 47.
13. José Ortega y Gasset, *La deshumanización del arte* (Madrid: Alianza editorial, 2002), XIVth edition. Originally published in *Revista de Occidente*, 1925.
14. In order to track the autarchic debate in the magazine *Casabella* during those years see: Roberto Einaudi, 'Impiegare razionalmente i materiali', *Casabella*, 132 (December 1938), p. 45; Ignazio Bartoli, 'L'Edilizia all'esame autarchico', *Casabella*, 132 (December 1938), pp. 45-49; Umberto Ferrari; Ignazio Bartoli; Roberto Einaudi; Fausto Massi; Ercole Galassini, 'Approvvigionamento dei materiali ferrosi. La questione dei buoni di acquisto dal commercio', *Casabella*, 137 (May 1939), pp. 38-39; Bruno Damiani, 'L'acciaio nell pensiero del Duce', *Casabella*, 142 (October 1939), pp. 34-37; Giuseppe Pagano, 'L'autarchia e l'architettura del ferro', *Casabella*, 144 (December 1939), pp. 34-35; Pierluigi Nervi, 'Per la massima autarchia edilizia', *Costruzioni Casabella*, 147 (March 1940), p. 3; Ing. F.M., 'Il serramento autarchico a saliscendi', *Costruzioni Casabella*, 148 (April 1940), pp. 38-39; Giuseppe Pagano, 'Una originale mostra dell'autarchia nell'edilizia', *Costruzioni Casabella*, 154 (October 1940), p. 38; Augusto Cavalieri-Murat, 'Autarchia, Tecnica, Arte', *Costruzioni Casabella*, 154 (October 1940), p. 39.
15. Ignazio Bartoli, 'L'acciaio nell'economia nazionale', *Casabella*, 98 (February, 1936), pp. 18-19.
16. See for instance, Reyner Banham, 'A Throw-away Aesthetic', 1955, republished in *Design by Choice* (London: Academy editions), 1972.
17. The journal headed the section in all the issues during the year 1938 quoting Benito Mussolini: '*Autarchia: Tutta l'economia deve essere orientata verso questa suprema necessità. Da questo dipende l'avvenire del popolo italiano*'. See *Rassegna di Architettura* (January 1938). Tecnica Edile.

18. Ibid., p.3.
19. Ibid.
20. Ibid.
21. Salvatore Cardella, 'Punti Fermi della Nuova Architettura', *Rassegna di Architettura*, 7 (July 1939), p. 310.
22. Giuseppe Pagano,'Variazioni sull'autarchia architettonica I', *Casabella*, 129 (September 1938), pp. 2-3; and 'Variazioni sull'autarchia architettonica II', *Casabella*, 130 (October 1938), pp. 2-3. See also a previous article by Giuseppe Pagano, 'Chi si ferma é perduto', *Casabella*, 128 (August 1938), pp. 2-3. In this article, Pagano attacks the anachronistic monumentalism presented by Marcello Piacentini.
23. Marcello Piacentini, 'Per l'autarchia', 'Politica dell'architettura', 'Bilancio del razionalismo', 'Forme concrete', *Il Giornale d'Italia*, 13, 15, 17 and 28 of July 1938.
24. Ibid.
25. Ibid.
26. Cardella, 'Punti Fermi della Nuova Architettura', p. 310.
27. This schism between tradition and technological progress paraphrased to some extent Gio Ponti's old concerns, which in 1930 supported an idea of *italianeità* as a distinctive trace in a hypothetical European market. This was feasible either thanks to an apt interpretation of traditional heritage, or by unconditionally supporting investigation in modern objects to recover lost technological prestige: characterisation or excellence. For Ponti, it was a question of 'renew or die', not as 'aesthetic claim' or 'intellectual manifesto' but as 'immanent need'. See Gio Ponti, 'Il fattore "italianità" nelle nostre arti applicate moderne', *Domus*, 35 (October 1930), pp. 33-34.
28. Giuseppe Pagano, 'Urgenza do Parlar Chiaro', *Casabella*, 146 (February, 1940), pp. 8-9.
29. See, Augusto Cavalieri-Murat, 'Autarchia, Tecnica, Arte', *Casabella*, 154 (October, 1940), p. 39.
30. Paolo Portoghesi, 'Dal Neorealismo al Neoliberty', *Comunità*, 65 (December, 1958), pp. 69-79.
31. Giuseppe Pagano was deported to the concentration camp in Mauthausen where he died in 1945.
32. After the founding of the short-lived *Repubblica di Salò*.
33. Even though the dictatorship was extremely protective of its domestic production, the gap in the concentration of wealth between the North and South on the one hand, and between the rural agricultural areas and the industrial ones on the other, notably increased during the fascist period.
34. As Manfredo Tafuri points out, it was not a coincidence that the criticism started already with objects meant to represent a common sensibility. In that sense, Loos's definition of architecture was doubly fulfilled: the tomb and the monument, together in a double redemption of common past experience.
35. The monument was initially designed as a 182 x 182 cm cube placed on top of a pedestal 42 cm high. During the first reconstruction phase directed by Enrico Peresutti, the cube briefly reached 250 cm in its sides.
36. After the quick degradation of the monument due to the bad quality of its steel, it was rebuilt in bronze for a short time, and then back in steel during the 1950s.
37. On 24 March 1944, the German troops were ambushed in Via Rassegna by Italian partisans, resulting in the death of 33 German soldiers. As an act of retaliation, the German army then ordered a massacre in relation one to ten: ten Italians for every German dead. Jewish, prisoners, partisans, or just people who were in the wrong place at the wrong moment, were all executed in the *Ardeatine* quarries, South of Rome. The place was later sealed. Five more victims were assassinated without a clear reason, amounting finally to 335 dead.
38. A.P.A.O. 'La costituzione dell'associazione per l'architettura organica a Roma', *Metron*, 2 (September 1945), p.75.
39. Ibid., p.76.
40. Mario Ridolfi, 'Il manuale del architetto', *Metron*, 8 (March 1946), p.36; Mario Ridolfi, et al., *Manuale dell'architetto* (Roma: Consiglio Nazionale delle Richerce. A cura dell'Ufficio Informazioni Stati Uniti, 1946).
41. Wolfgang Frankl had worked in the past as a draftsman for Ernst Neufert in Germany while the latter was in charge of the supervision for the teachers' apartments in the Bauhaus in Dessau. Not even this close relation helped to recognise Neufert's *Bauentwurfslehre*

kinship for the Italian handbook, as the coincidence in the overall measures of man and its environment suggest.

42. Mario Ridolfi points out previous handbooks by Donghi and Breimann. Mario Ridolfi, et al., *Manuale dell'architetto*, p. 42.
43. Ibid.
44. *Sommario di norme e dati; Tecnica urbanistica; Materiali edilizi; progettazione statica; elementi strutturali; opere finite della construzione; Impianti Tecnici; Dati Caratteristici e misure di Ingombro.*
45. Source: 'Rassegna della propietà edilizia', Rome (July-September, 1937), published by Giuseppe Pagano in 'Case per il popolo', *Casabella*, 143 (November 1939), pp. 2-3.
46. The aim of the 1949 legislation was to provide increasing worker employment, facilitating the construction of labour housing.
47. Reichlin, Bruno, 'Figures of Italian Realism. Part I', *Grey Room*, 5 (Autumn 2001), pp. 78-101, and 'Figures of Italian Realism. Part II', *Grey Room*, 6 (Winter 2001), pp. 110-33, trans. by Tony Shugaar and Branden Joseph.
48. For a discussion on realism and architecture see Manfredo Tafuri, 'Architettura e Realismo', in Vittorio Magnago-Lampugani (ed.), *Architettura Moderna: L'avventura delle Idee, 1750-1980* (Milano: Electa, 1985), pp.123-48; Hannes Meyer, 'Der Sowietische Architekt', manuscrito para Arquitectura, México, 9 (1942). Quoted from Bruno Reichlin, 'Figures of Neorealism in Italian Architecture. Part I', p. 97.
49. Salvatore Cardella, using the ornamented fascist prose, defended a spiritual realism, enigmatic even though seemingly indispensable in order to potentiate the expressive and lyric qualities of the material. Cardella, 'Punti Fermi della Nuova Architettura', p.310.

Biography

Pep Avilés is an architect and historian graduated from the School of Architecture in Barcelona (E.T.S.A.B.) where he also received his Master's in History and Theories of Art and Architecture. He has worked as an architect in Spain, Switzerland, and England and he is currently pursuing his Doctoral degree at Princeton University.